

SUBMISSION OF REPLACEMENT FORMAL DRAWINGS

Submitted herewith are replacement drawing sheets for Figures 8, 12, 16A, 16B, 17, 23 and 26.

In Figure 8, the text in the box designated as 967 has been amended to --Packetization part determination unit--.

In Figure 12, the text in the boxes designated as 107 and 110 has been amended to --Packetization part determination unit-- and --Audio packetization part determination unit--, respectively.

In Figure 16A, two occurrences of "30s" were amended to --30 min.--.

In Figure 16B, two occurrences of "20s" were amended to --20 min.--, and two occurrences of "30s" were amended to --30 min.--.

In Figure 17, the text in the boxes designated as 117 and 119 has been amended to --Packet part determination unit-- and --Video packetization part determination unit--, respectively. Moreover, the text in the boxes designated as 120 and 121 has been amended to --Time based part adjustment unit-- and -- I frame based part adjustment unit--, respectively.

In Figure 23, three occurrences of "Paket" have been amended to --Packet--.

In Figure 26, the text of the box designated as 303 has been amended to --Header demultiplex analysis unit--.

Remarks

In view of the above amendments and following remarks, reconsideration of the objections and rejections, and further examination are requested.

Claims 1-17 are pending in this application, claims 1-16 stand rejected, and claim 17 has been withdrawn from further consideration. Claims 1, 10 and 16 are amended herein. No new matter has been added.

The Examiner has issued a Restriction Requirement between Invention I, claims 1-16, drawn to media synchronization, and Invention II, claim 17, drawn to processing of headers. The Applicants herein elect Invention I, claims 1-16.

The Applicants attach herewith an Information Disclosure Statement (IDS) listing references that were first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to filing this IDS.

The specification and abstract have been carefully reviewed and revised to make grammatical and idiomatic improvements in order to aid the Examiner in further consideration of the application. A substitute specification and abstract including the revisions have been prepared and are submitted herewith. No new matter has been added. Also submitted herewith are marked-up copies of the substitute specification and abstract indicating the changes incorporated therein.

During a review of the drawings, it was discovered that Figures 8, 12, 16A, 16B, 17, 23 and 26 each required a minor correction to be properly coordinated with the specification. Specifically, in Figure 8, the text in the box designated as 967 has been amended to --Packetization part determination unit--. In Figure 12, the text in the boxes designated as 107 and 110 has been amended to --Packetization part determination unit-- and --Audio packetization part determination unit-- , respectively. In Figure 16A, two occurrences of "30s" were amended to --30 min.--. In Figure 16B, two occurrences of "20s" were amended to --20 min.--, and two occurrences of "30s" were amended to --30 min.--. In Figure 17, the text in the boxes designated as 117 and 119 has been amended to --Packet part determination unit-- and --Video packetization part determination unit-- , respectively. Moreover, the text in the boxes designated as 120 and 121 has been amended to --Time based part adjustment unit-- and -- I frame based part adjustment unit-- , respectively. In Figure 23, three occurrences of "Paket" have been amended to --

Packet--. In Figure 26, the text of the box designated as 303 has been amended to --Header demultiplex analysis unit--. New replacement formal drawings for Figures 8, 12, 16A, 16B, 17, 23 and 26 have been prepared and are submitted herewith, and include those changes detailed above.

The title is amended herein to agree with that indicated in the Declaration. Specifically, the title has been amended to --MULTIPLEXER AND DEMULTIPLEXER--.

Claim 1 has been objected to because “apporoximately” as recited in line 17 of claim 1 should be changed to --approximately--. Claim 1 has been amended to address the Examiner’s concern.

Accordingly, the Applicants respectfully request that the objection to claim 1 be withdrawn.

Claims 1-4, 10, 11 and 16 have been rejected under 35 U.S.C. §102(e) as being anticipated by Toida et al. (U.S. Patent Application Publication No. 2002/0041609) (hereinafter referred to as “Toida”). Claims 5-7 and 12-14 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Toida in view of Niimura et al. (U.S. Patent No. 5,537,215) (hereinafter referred to as “Niimura”). Claims 8, 9 and 15 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Toida in view of Henmi et al. (U.S. Patent No. 6,438,316) (hereinafter referred to as “Henmi”).

Claims 1, 10, and 16 have been amended so as to further distinguish the present invention, as recited therein, from the references relied upon in the above-mentioned rejections.

The above-mentioned rejections are submitted to be inapplicable to the amended claims for the following reasons.

Claim 1 recites a multiplexer including, at least, an analysis unit operable to obtain playback start time information that indicates a playback start time of a sample that is a smallest access unit of image data, audio data and text data included in media data, and a packetization part determination unit operable to determine, based on the playback start time information obtained by the analysis unit and in all the packets necessary for storing the media data, a packetization part of the media data such that

playback start times of respective samples of the image data, audio data and text data that are included in the media data are made to be the same.

Toida discloses producing multiplexed data which can be synchronized and reproduced by using a time base of a specified object as a time base of another object. Specifically, Toida discloses in FIG. 1, two pieces of object data "01" and "02", with reference clocks varied from each other, input and stored temporarily in first and second buffering means 11 and 12, respectively. In FIGS. 8(a) to 8(c), "01" and "02" are 81 in (a) and 82 in (b), respectively. Audio 11 and 21, video 12 and 22, and data 13 and 23 are digital data such as audio data, video data and character information, respectively, and are to be synchronized and displayed, respectively. The object data 81 and 82 except the audio data, video data and digital data are null data, that is, data with low significance which is to be processed.

A control means 13 changes a multiplexing interval of "02" using "01" as a reference and outputs the changed data to a third buffering means 14. The multiplexing interval is changed as follows. As shown in FIG. 8(c), until the audio data 11 of "01" as the reference arrives, data is inserted before Audio 21. As shown in FIG. 8(b), video 12 arrives and data before video 22 is deserted. Similarly as shown in FIG. 8(c), until data 13 arrives, data is inserted before data 23. As concerns deserting data, the null data may be deserted. Also, the null data may be employed as data to be inserted.

In this way, "02" with a multiplexing interval thereof changed becomes data "0'2" synchronized with "01". The multiplexing means 15 fetches data "01" from the first buffering means 11 and data "0'2" with the multiplexing interval thereof changed from the third buffering means 14, and multiplexes a difference in absolute time of reference clocks between "01" and "0'2" as synchronization control data, together with "01" and "0'2" and outputs resulting data as an output of the multiplexed data producing apparatus.

A description of a multiplexed data reproducing apparatus is given with reference to FIG. 4. Synchronization control data is output to a control means 44 from a demultiplexing means 41. The control means 44 extracts a difference in control time from the synchronization control data and executes control using the difference.

Thus, with the construction of the multiplexed data producing apparatus, using a specified object data of plural pieces of object data for use in multiplexing as a reference,

a multiplexing interval of the other object data is changed to be synchronized with the specified object data as the reference, thereby multiplexed data is produced, including the synchronization control data which includes a difference in absolute time between clocks. Therefore, it is possible to perform preferable synchronization and reproduction using the synchronization control data. In addition, control is performed using synchronization control data included in multiplexed data, thereby the multiplexed data can be synchronized and reproduced.

In contrast to the present invention, Toida does not disclose the control means 13 or the multiplexing means 15 obtaining start time information that indicates a playback start time of a sample, or determining in all the packets necessary for storing media data a packetization part of the media data. Instead, Toida discloses using a specified object data of plural pieces of object data for use in multiplexing as a reference, a multiplexing interval of the other object data is changed to be synchronized with the specified object data as the reference, thereby multiplexed data is produced, including the synchronization control data which includes a difference in absolute time between clocks. Moreover, there is no disclosure or suggestion in Toida to modify the control means 13 or the multiplexing means 15 to obtain start time information, or to determine in all the packets necessary for storing media data a packetization part of the media data.

In other words, Toida does not disclose an analysis unit operable to obtain playback start time information that indicates a playback start time of a sample that is a smallest access unit of image data, audio data and text data included in the media data, and a packetization part determination unit operable to determine, based on the playback start time information obtained by the analysis unit and in all the packets necessary for storing the media data, a packetization part of the media data such that playback start times of respective samples of the image data, audio data and text data that are included in the media data are made to be the same, as recited in claim 1.

Regarding the combination of Toida and Niimura, Niimura is relied upon in the rejection as disclosing a band compression signal processor for intra-frame-coding. Specifically, Niimura discloses an apparatus for converting a video signal or the like into a digital signal and performing band compression based on a combination of intra-frame-coding processing and inter-frame-coding processing, which apparatus allows a

recording/reproducing device to easily obtain a good reproduced image especially in the fast reproduction mode when an output signal from the apparatus is recorded on a tape by a helical scan scheme and is transmitted to the recording/reproducing device for reproducing the signal. However, as with Toida, it is clear that Niimura also fails to disclose or suggest the above-discussed features as recited in claim 1. Therefore, no obvious combination of Toida and Niimura would result in or otherwise render obvious the invention recited in claim 1.

Regarding the combination of Toida and Henmi, Henmi is relied upon in the rejection as disclosing a reproducing apparatus and method for including line numbers. Specifically, Henmi discloses a recording/reproducing apparatus suitable for a portable digital video tape recorder with a built-in camera. However, as with Toida, it is clear that Henmi also fails to disclose or suggest the above-discussed features as recited in claim 1. Therefore, no obvious combination of Toida and Henmi would result in or otherwise render obvious the invention recited in claim 1.

Regarding claims 10 and 16, they are patentable over the references relied upon in the rejections for reasons similar to those set forth above in support of claim 1. That is, each of claims 10 and 16 similarly recites, in part, obtaining playback start time information indicating a playback start time of a sample that is a smallest access unit of image data, audio data and text data included in media data by analyzing the media data, and determining, based on the playback start time information and in all the packets necessary for storing the media data, a packetization part of the media data such that playback start times of respective samples of the image data, audio data and text data that are included in the media data are made to be the same.


Because of the above-mentioned distinctions, it is believed clear that claim 1, and claims 2-9 depending therefrom, claim 10 and claims 11-15 depending therefrom, and claim 16 are patentable over the references relied upon in the rejections. Therefore, it is submitted that claims 1-16 are clearly allowable over the prior art of record.

In view of the foregoing amendments and remarks, all of the claims in this application are believed to be in condition for allowance. Reconsideration and favorable action are respectfully solicited.

Should the Examiner believe that there are any remaining issues which must be resolved before this application can be passed to issue, it is respectfully requested that the Examiner contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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